UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,404	03/14/2001	Kenneth S. Araujo	Netilla-7/APP	3677

7265 7590 07/13/2004		EXAMINER
MICHAELSON AND WALLACE		MAURO JR, THOMAS J
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328 NEWMAN SPRINGS RD	ART UNIT	PAPER NUMBER
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DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/22/01 (Preliminary Amendment)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>22 June 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-20 are pending and are presented for examination. A formal action on the

merits of claims 1-20 follows.

Specification

2.   The use of the trademark MICROSOFT WORD and MICROSOFT EXCEL have been

noted in this application. It should be capitalized wherever it appears and be accompanied by the

generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-3 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Huang et al. (U.S. 6,571,245) in view of Wei (U.S. 6,654,784).

Regarding claim 1, Huang teaches an apparatus for providing a web-accessible virtual

processing environment to a network-connected office server for a remotely connected user

computer through which a user stationed at the computer can execute any of a plurality of

server-based applications resident at the office server **[Huang -- Abstract]**, comprising:

a platform, capable of being situated in network communication between the user

computer and the office server **[Huang -- Figure 2 and Col. 4 lines 18-46 – Site server, which**

provides link for computers to connect to backend, i.e. office servers, sits between the

computers and office LAN], having:

a processor **[Huang -- Figure 15 and Col. 18 lines 62-67 – Col. 19 lines 1-22 – Server**

computers contains a processor];

a memory connected to the processor and for storing computer executable instructions

therein **[Huang -- Figure 15 and Col. 18 lines 62-67 – Col. 19 lines 1-22 – Server computers**

contains a memory, i.e. fixed disk, which contains source code for operating system];

first and second network interfaces, operable in conjunction with the processor, for

interfacing the platform, through the first network interface, to a wide area network (WAN)

connection through which the remote user computer obtains connectivity to the platform **[Huang**

-- Figure 2 and Col. 4 lines 26-40 – Site server is connected to the Internet, i.e. WAN,

through a firewall, which allows remote computers to connect to platform, i.e. site server],

and, through the second network interface, to a local area network (LAN) having a server

computer electrically communicative there over, respectively, with the server computer forming

the office server **[Huang -- Figure 2 and Col. 1 lines 40-47, Col. 4 lines 47-67 and Col. 5 lines**

35-54 – Site server is also connected to a regional (office) network's LAN which contains other back-end servers, applications servers, mail servers, etc.]; and

wherein, in response to the executable instructions **[Huang -- Col. 2 lines 66-67 – Col. 3 lines 1-4, Col. 7 lines 33-36 and Col. 16 lines 12-33 – User submits commands, i.e. clicks on an icon, through browser to cause processing of applications]**, the processor, for each one of the server-based applications carries out instructions.

Huang fails to explicitly teach bi-directional protocol conversion of messages between remote client computer and server, such that data provided by browser in a first protocol is converted into a second protocol to be then sent and executed by an application server and converting output data from an application server back to the first protocol for transmission to the client browser.

Wei, however, discloses these limitations substantially as claimed, namely, converting messages intended for applications sent by a client browser using the HTTP protocol into remote desktop protocol (RDP) in order to communicate with the application server and execute command issued by the user. In addition, responses from application are converted by the application server from RDP to HTTP for transmission back to the client computer via the browser **[Wei -- Figure 3, Col. 5 lines 49-53, Col. 6 lines 38-67 – Col. 7 lines 1-35]**.

Both Huang and Wei are concerned with executing applications through use of a web browser on a remote server using the HTTP protocol.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the converting of messages sent by a client browser from one protocol into a second protocol used by the specific application server and further converting back any

responses sent by the application server from the second protocol to the first protocol for

communication with the client browser, as taught by Wei into the invention of Huang, in order to

provide a good performing system for running web-based application and to allow two

computers using different protocols to be able to communicate and successfully execute

commands remotely.

Regarding claim 2, Huang-Wei teaches the invention substantially as claimed, as

aforementioned in claim 1 above, including wherein the processor, in response to execution of

the stored instructions:

for messages emanating from the user computer and appearing on the WAN connection:

receives, from the browser, a first message containing the user interaction data

associated with a specific one server-based application and in the first protocol **[Wei --**

Figure 3 and Col. 7 lines 9-17 – User click information, i.e. user commands, are

transmitted to application server in a first protocol, i.e. HTTP or HTTPS];

converts the user interaction data in the first protocol to the second protocol

associated with the specific one server-based application to yield a second message **[Wei**

-- Figure 3, Col. 6 lines 58-67 and Col. 7 lines 18-22 – Application server will

translate the client request from a first protocol, i.e. HTTP or HTTPS, into a second

protocol that backend server can use, i.e. RDP]; and

applies the second message, as input, to the server computer for processing by the

specific one server-based application **[Wei -- Figure 3 and Col. 7 lines 23-26 – Backend**

server receives the information for processing];

and for messages emanating from the server computer and appearing on the LAN:

receives, from the server computer and over the LAN connection, a third message

containing output data generated by the specific one server-based application and;

converts the output data message in the second protocol to the first protocol to

yield a fourth message **[Wei -- Figure 3, Col. 6 lines 58-67 and Col. 7 lines 27-30 --**

Response from backend server is received using second protocol and is converted

back to a first protocol for transmission back to the client computer]; and

applies the fourth message to the WAN connection for transmission to the

browser in order to render the output data thereat **[Wei -- Figure 3 and Col. 7 lines 31-**

34 -- Message is sent back out to client browser].

Regarding claim 3, Huang-Wei teach the invention substantially as claimed, as

aforementioned in claim 2 above, including wherein the server computer comprises a

corresponding server for each of the server-based applications and is implemented either

coincident with the platform or as at least one physical computer separate from the platform and

connected, via the LAN, to it **[Huang -- Figure 2 and Col. 4 lines 31-63 -- Site server**

computer which provides access to backend servers is separate from backend servers and

specific application servers, i.e. e-mail server, database server, application server, etc.].

Regarding claim 11, Huang teaches a method for use, in apparatus, which provides for

providing a web-accessible virtual processing environment to a network-connected office server

for a remotely connected user computer through which a user stationed at the computer can

execute any of a plurality of server-based applications resident at the office server [**Huang --**

Abstract], the apparatus comprising a platform, capable of being situated in network

communication between the user computer and the office server [**Huang -- Figure 2 and Col. 4**

lines 18-46 -- Site server, which provides link for computers to connect to backend, i.e.

office servers, sits between the computers and office LAN], having: a processor [**Huang --**

Figure 15 and Col. 18 lines 62-67 -- Col. 19 lines 1-22 -- Server computers contains a

processor], a memory connected to the processor and for storing computer executable

instructions therein [**Huang -- Figure 15 and Col. 18 lines 62-67 -- Col. 19 lines 1-22 -- Server**

computers contains a memory, i.e. fixed disk, which contains source code for operating

system]; first and second network interfaces, operable in conjunction with the processor, for

interfacing the platform, through the first network interface, to a wide area network (WAN)

connection through which the remote user computer obtains connectivity to the platform [**Huang**

-- Figure 2 and Col. 4 lines 26-40 -- Site server is connected to the Internet, i.e. WAN,

through a firewall, which allows remote computers to connect to platform, i.e. site server],

and, through the second network interface, to a local area network (LAN) having a server

computer electrically communicative there over, respectively, with the server computer forming

the office server [**Huang -- Figure 2 and Col. 1 lines 40-47, Col. 4 lines 47-67 and Col. 5 lines**

35-54 -- Site server is also connected to a regional (office) network's LAN which contains

other back-end servers, applications servers, mail servers, etc.]; wherein, the method

comprises the steps, performed by the processor, for each one of the server-based applications.

Huang fails to explicitly teach bi-directional protocol conversion of messages between remote

client computer and server, such that data provided by browser in a first protocol is converted

into a second protocol to be then sent and executed by an application server and converting

output data from an application server back to the first protocol for transmission to the client

browser.

Wei, however, discloses these limitations substantially as claimed, namely, converting messages

intended for applications sent by a client browser using the HTTP protocol into remote desktop

protocol (RDP) in order to communicate with the application server and execute command

issued by the user. In addition, responses from application are converted by the application

server from RDP to HTTP for transmission back to the client computer via the browser **[Wei --**

Figure 3, Col. 5 lines 49-53, Col. 6 lines 38-67 – Col. 7 lines 1-35].

Both Huang and Wei are concerned with executing applications through use of a web browser on

a remote server using the HTTP protocol.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the converting of messages sent by a client browser from one protocol

into a second protocol used by the specific application server and further converting back any

responses sent by the application server from the second protocol to the first protocol for

communication with the client browser, as taught by Wei into the invention of Huang, in order to

provide a good performing system for running web-based application and to allow two

computers using different protocols to be able to communicate and successfully execute

commands remotely.

Regarding claims 12 and 13, these are method claims corresponding to the apparatus claimed in claims 2 and 3 above. They have similar limitations; therefore, claims 12 and 13 are rejected under the same rationale.

5.   Claims 4-10 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. 6,571,245) and Wei (U.S. 6,654,784), as applied to claims 3 and 13 above respectively, in view of Zhu et al. (U.S. 6,691,154).

Regarding claim 4, Huang-Wei teach the invention substantially as claimed, as aforementioned in claim 3 above, the application module further comprising:

a user interaction component communicative, through the WAN connection, with the browser, for accepting the user interaction data from the browser in the first protocol and for providing said output data to the browser in the first protocol **[Wei -- Figure 3, Col. 6 lines 38-67 and Col. 7 lines 10-17 and lines 27-33 – Application server accepts browser commands, i.e. click information, in a first protocol, i.e. HTTP. After backend server generates and transfers response to application server, output data, i.e. response is translated back to first protocol for transmission back to the client browser]**;

interpreting each command issued by the user interaction component so as to provide the user interaction data to the specific one server-based application executing on the server computer, and communicative through a client protocol component, for sending user interaction data to the server-based application and for receiving said output information from the specific

one server-based application **[Wei -- Figure 3, Col. 6 lines 38-67 and Col. 7 lines 18-26 – After receiving commands/information from client browser, application server converts the information to a second protocol understandable by the backend server for processing and later receives response from backend server, i.e. output]**; and

a client protocol component, operative in conjunction with the state machine, for converting the user interaction data received from the state machine into the second protocol and applying resultant messages in the second protocol to the specific one server-based application, and for receiving said output data in the second protocol from the specific one server-based application **[Wei -- Figure 3, Col. 6 lines 58-67 and Col. 7 lines 18-22 and lines 27-30 – Application server will translate the client request from a first protocol, i.e. HTTP or HTTPS, into a second protocol that backend server can use, i.e. RDP. Responses received from backend servers are received using second protocol and are converted back to a first protocol for transmission back to the client computer]**.

Huang-Wei fail to explicitly teach the use of a state machine, i.e. hardware, for carrying out such steps as outlined above.

Zhu, however, discloses a system and method for exchanging data in a desktop sharing mode which teaches that a state machine, i.e. hardware, can be used to implement the processes necessary for remotely sharing and transferring desktop data **[Zhu -- Figures 1 and 4b, Col. 5 lines 22-41 and Col. 8 lines 6-13]**.

Zhu, along with Huang and Wei are all concerned with remotely accessing a server or another computer over a network, i.e. the Internet.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the use of a state machine for facilitating the exchanging of information

remotely between a client and a server, as taught by Zhu into the invention of Huang-Wei, in

order to provide a more stable, reliable and faster executing environment for remote transactions

to occur.

Regarding claim 5, Huang-Wei-Zhu teach the invention substantially as claimed, as

aforementioned in claim 4 above, wherein the server-based applications comprise thin-client

application hosting, e-mail and shared file access **[Huang -- Figures 2, 3 and Col. 4 lines 47-65**

and Col. 9 lines 22-34 – Server applications include e-mail, applications, i.e. (MICROSOFT

WORD, MICROSOFT EXCEL), and file servers for shared file access]; and the first

protocol comprises HTTP **[Huang -- Col. 15 lines 13-16 System supports HTTP protocol**

transmission from browser to site server], secure HTTP, or a protocol with AIP-like

functionality and the second protocol comprises RDP (remote desktop protocol), IMAP (Internet

mail access protocol) or SMB (server message block) **[Wei -- Figure 3 and Col. 5 lines 49-53**

and Col. 10 lines 41-44 – RDP].

Regarding claim 6, Huang-Wei-Zhu teach the invention substantially as claimed, as

aforementioned in claim 5 above, including, wherein the user interaction data comprises a

designation of a uniform resource locator (URL), uniform resource identifier (URI), form input,

keystrokes or mouse clicks that returns associated information desired by the user, and output

data comprises graphical display data **[Huang -- Figure 3, Col. 6 lines 8-67 – Col. 7 lines 1-10**

and Col. 19 lines 1-9 – Client enters URL into browser to navigate to site server in order to

access virtual desktop. Site can be accessed by typing in URL or by clicking on a

bookmark and output data is displayed graphically in browser window].

Regarding claim 7, Huang-Wei-Zhu teach the invention substantially as claimed, as

aforementioned in claim 6 above, including wherein said output data comprises bitmap graphic

output display data generated by the specific one server-based application **[Huang -- Col. 6 lines**

40-67 – Col. 7 lines 1-11, Col. 10 lines 61-67 – Col. 11 lines 1-5 and Col. 17 lines 60-67 – Col.

18 lines 1-4 – Applications generate output files which are then converted into HTML or

JPEG format and displayed in browser].

While Huang-Wei-Zhu do not explicitly teach bitmap graphics, bitmap graphics were well-

known in the art at the time of the applicant's invention and could have been used instead of

JPEG graphics in order to provide smaller files sizes and faster loading of images. Thus, this

would have been obvious to a person of ordinary skill in the art.

Regarding claim 8, Huang-Wei-Zhu teach the invention substantially as claimed, as

aforementioned in claim 7 above, including wherein the WAN connection comprises either a

private network connection or an Internet connection **[Huang -- Figure 2 and Col. 4 lines 18-30**

– Client is connected to site server and backend servers over the Internet].

Regarding claim 9, Huang-Wei-Zhu teach the invention substantially as claimed, as

aforementioned in claim 8 above, including wherein the second network interface comprises an

Ethernet interface **[Zhu -- Col. 7 lines 36-41 – Ethernet card implies an Ethernet interface],**

and the first network interface comprises a broadband network interface **[Huang -- Col. 3 lines 58-65 – Client computer connects to Internet through ISDN or T1 interface which is considered a broadband interface]**.

Regarding claim 10, Huang-Wei-Zhu teach the invention substantially as claimed, as aforementioned in claim 9 above, including wherein the broadband network interface comprises a digital subscriber line (DSL) interface, a cable modem, an integrated services digital network (ISDN) interface, a T1 interface or a fractional T1 interface **[Huang -- Col. 3 lines 58-65 – Client computer connects to Internet through ISDN or T1 interface]**.

Regarding claims 14-20, these are method claims corresponding to the apparatus claimed in claims 4-10 above. They have similar limitations; therefore, claims 14-20 are rejected under the same rationale.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- Auvenshine (U.S. 6,725,238) discloses a method and system for accessing a shared

  file system remotely over the Internet.

- Mendez et al. (U.S. 6,023,708) discloses a system to access and synchronize

  information across different formats between multiple sites securely.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thomas J. Mauro Jr. whose telephone number is 703-605-1234.

The examiner can normally be reached on M-F 8:00a.m. - 4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David A. Wiley can be reached on 703-308-5221. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJM
July 1, 2004

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100